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EDITORIAL

Peritonsillar Abscess: Cool "Hot Potato"

Peritonsillar abscess (PTA) is one of the most common deep infections of the head and neck, and it occurs more commonly in 20 to 40-year-olds than in children. Pediatric PTA usually presents in later childhood and adolescence. One study showed that the incidence of suspected PTA among children was 14 cases per 100,000 person-years at risk; the incidence was highest among adolescents (40 cases per 100,000 person-years). The incidence of confirmed PTA was three cases per 100,000 person-years at risk.[1]

The article by Hsiao and colleagues,[2] in this issue of *Pediatrics and Neonatology*, adds some useful data to this discussion. They reported their experience about the demographic, clinical, and microbiological findings and the management of PTA in 56 patients over a 10-year period. The mean age of the patients was 12.9 years, two-thirds of them were older than 12 years. The diagnosis of PTA is often made on the basis of a thorough history and physical examination. Although 45% patients received a computed tomography (CT) scan, CT with contrast enhancement may be indicated to determine the anatomic borders of the infection. In this comparative study, the leading symptoms were fever (95%) and neck mass (89%) in the $<$12-year group and sore throat (100%) and fever (54%) in the $>$12-year group. PTA is usually associated with unilateral severe pain; drooling is caused by odynophagia and dysphagia. There is a gross unilateral swelling of the palate and the anterior pillar, with reflection of the uvula toward the opposite side. Bilateral PTA is a rare variant of a relatively common disease.

This article contains reports describing the bacterial pathogens of pus cultures. Cultures of the PTA usually show a polymicrobial infection, with a mixture of aerobic and anaerobic bacteria. Polymicrobial infection was identified in 72% cases of this series. Ehlers Klug et al[3] reported that, on average, about three to five isolates were detected on surface swabs or grown in pus aspirates. The predominant organisms were *Streptococcus* (72%) and *Fusobacterium* (44%) species.[2] Hidaka et al[4] suggested that *Streptococcus milleri* group was the most common isolate of the *Streptococcus* species. Group A *Streptococcus* was also established as a key pathogen in PTA. The importance of anaerobes in PTA formation has been studied. *Fusobacterium nucleatum* and *Fusobacterium necrophorum* have been detected in patients with PTA. Hsiao and colleagues[2] recovered *F. nucleatum* from 30% of all identified pathogens. However, *F. necrophorum* has been an emerging pathogen in PTA.[3]

PTA may be managed in a number of ways: needle aspiration, incision and drainage, and tonsillectomy. Tonsillectomy should be considered in patients with a previous history of recurrent PTA or recurrent severe tonsillitis. Drainage using any of these methods combined with an antibiotic therapy will result in the resolution of PTA in more than 90% of cases. In this article, 31 (55%) patients were drained at the emergency department immediately after admission, and a further 14 (25%) patients received aspiration and incision within the first 3 days of admission. All patients received intravenous antibiotics therapy, with nearly 60% being treated with penicillin-containing regimens.[2] Penicillin remains the first-line antibiotic for the treatment of all tonsillar infections. A high resolution rate of PTA following drainage and treatment with penicillin alone was reported.[5] The reported incidence of penicillin-resistant organisms ranges widely. Studies have shown that good clinical recovery is still achieved with penicillin.

PTA is a potentially life-threatening infection of the potential space adjacent to the tonsillar capsule in the oropharynx due to airway compromise. Caudad spread of the abscess tended to precipitate upper airway obstruction in patients with PTA. Recognizing impending airway obstructions is important because cardiopulmonary arrest is rarely a sudden event, but follows a progressive deterioration in the respiratory function. Early recognition of this disease process can prevent a poor outcome due to airway compression and obstruction.

The findings in this study also provide areas for thought and further investigation. Except for smoking being a predisposing factor in adult patients, little is known about the development of PTA. Human β-defensins are endogenous peptides with microbicidal activity against

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bacteria, fungi, viruses, and protozoa.[6] β-Defensins function as a first line of defense against microbial colonization in the oral cavity. Schwaab et al[7] found strong β-defensin expression in tonsillar tissues obtained from PTA patients. β-Defensins may play a defensive role in preventing microbial invasion and maintaining homeostasis of commensal bacteria.

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References

1. Millar KR, Johnson DW, Drummond D, Kellner JD. Suspected peritonsillar abscess in children. *Pediatr Emerg Care* 2007;**23**:431—8.
2. Hsiao HJ, Huang YC, Hsia SH, Wu CT, Lin JI. Clinical features of peritonsillar abscess in children. *Pediatr Neonatol* 2012;**53**:366—70.
3. Ehlers Klug T, Rusan M, Fuursted K, Ovesen T. Fusobacterium necrophorum: most prevalent pathogen in peritonsillar abscess in Denmark. *Clin Infect Dis* 2009;**49**:1467—72.
4. Hidaka H, Kuriyama S, Yano H, Tsuji I, Kobayashi T. Precipitating factors in the pathogenesis of peritonsillar abscess and bacteriological significance of the Streptococcus milleri group. *Eur J Clin Microbiol Infect Dis* 2011;**30**:527—32.
5. Visvanathan V, Nix P. National UK survey of antibiotics prescribed for acute tonsillitis and peritonsillar abscess. *J Laryngol Otol* 2010;**124**:420—3.
6. Underwood MA, Bevins CL. Defensin-barbed innate immunity: clinical associations in the pediatric population. *Pediatrics* 2010;**125**:1237—47.
7. Schwaab M, Hansen S, Pearson MD, Shagdarsuren S, Dazert S. Human β-defensins-at the front line of the peritonsillar abscess. *Eur J Clin Microbiol Infect Dis* 2009;**28**:745—55.